

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Brun, Milivoj Konstantin

Serial No.: 10/630,148

Filed: July 31, 2003

For: Fiber Coating Method And Reactor

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Group Art Unit: 1762

Examiner: B. Chen

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Tait R. Swanson

Sir:

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

In response to the Final Office Action of May 31, 2006, Applicant respectfully submits this Pre-Appeal Brief Request for Review. This request is being filed concurrently with a Notice of Appeal. In the Final Office Action mailed on May 31, 2006, the Examiner essentially reiterated the rejection formulated in the previous non-final Office Action. Because the Appellant believes that the rejections are improper, the present Appeal has been filed. The Examiner rejected pending claims 1-27 under 35 U.S.C. § 103(a). Of these, claim 1 is independent. The Applicant, however, respectfully submits that these rejections are clearly improper in view of several clear legal and factual deficiencies in the Examiner's rejections.

**Rejections under 35 U.S.C. § 102**

The Examiner rejected claims 1-27 under 35 U.S.C. § 102(a) as being unpatentable over Linn et al., (U.S. Patent 6,143,376, hereinafter “Linn”). Rejected claim 1 is independent and will be discussed in detail below.

***Features of independent claim 1 missing from Linn***

Independent claim 1 recites, *inter alia*, “a method of coating a CMC fiber, comprising: disrupting at least a portion of said flow of reactant from a path substantially parallel to said fiber path to create a mixing flow adjacent said fiber.”

Linn fails to teach or even suggest “disrupting at least a portion of said flow of reactant from a path substantially parallel to said fiber path to create a mixing flow adjacent said fiber,” as recited by claim 1. In both the non-final Office Action and the Final Office Action, the Examiner failed to identify any portion of Linn that would or could be anticipative of the foregoing claim features. *See* Office Action mailed on December 14, 2005, pages 2-3; Final Office Action mailed on May 31, 2006, pages 3-4. In contrast, Linn discloses:

Separation of the fibers in the fiber bundles can also be accomplished by a combination of microwave, ultrasound, and/or shock-wave treatment.

Linn et al., col. 5 line 11- col. 5 line 13 (emphasis added). The Applicant stresses that Linn does not teach or suggest that the microwave, ultrasound, and/or shock-wave treatment would or could hypothetically disrupt the flow of reactant, much less create a mixing flow adjacent the fiber. These treatments appear to be completely independent from the flow. Linn further discloses:

Reactor 30 has an angle of inclination of 45° and a rotational speed  $n_3$  of 5 to 10 rpm. A microwave field is created inside reactor 30. At the same time, reaction gas is introduced into reactor 30 through opening 32, and exits via opening 31. When the fiber bundles enter the microwave zone, the clinging coating (in commercially available fiber bundles) or the clinging matrix (in recycle fiber bundles) breaks down suddenly into gaseous products, so that the individual fibers are separated from each other. The resulting gas phase forces the individual fibers further apart and exits the reactor. The individual fibers are then CVD-

coated by the reaction gas. Reactor 30 is heated by the microwave heater with a homogeneous field and/or by inductive heating.

Linn et al., col. 4 line 63- col. 5 line 8 (emphasis added). In view of the foregoing passages, the Applicant submits that Linn discloses microwaving the fiber bundles (without any disruption of flow) to break down the coating, thereby separating the fiber bundles into individual fibers. *After* broken down, the individual fibers are coated by chemical vapor deposition with a reaction gas. Again, Linn does not even mention any sort of flow disruption or mixing. For at least these reasons, Linn fails to teach or suggest “disrupting at least a portion of said flow of reactant from a path substantially parallel to said fiber path to create a mixing flow adjacent said fiber,” as recited by claim 1.

#### ***Claim 4***

In addition to the features missing from independent claim 1, a number of the dependent claims recite features that are clearly missing from the Linn reference. For example, claim 4 recites a method for coating CMC fiber wherein said fiber comprises a single monofilament fiber. Linn specifically recites “Device 1 is used to coat short fibers on all sides from short fiber bundles.” Linn et al, col. 3, lines 36-37. Linn clearly does not teach or suggest a method of coating a single monofilament fiber. For this reason among others, the Linn reference fails to teach or suggest each and every feature recited in claim 4. Hence, the Applicant stresses that the Linn reference does not anticipate claim 4.

#### **Rejections Under 35 U.S.C. § 103**

The Examiner rejected claims 3, 7-9, 12-15 and 17-27 under 35 U.S.C. §103(a) as being unpatentable over Linn. Claims 3, 7-9, 12-15 and 17-27 all depend on independent claim 1. As discussed in detail above, the Linn reference fails to teach or suggest a number of features set forth in claim 1. Accordingly, these dependent claims are believed to be clearly patentable at least by virtue of their dependency from an allowable base claim.

**Election/Restriction**

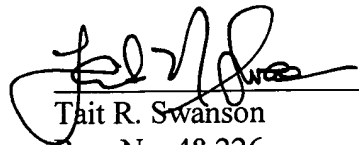
In the Final Office Action, the Examiner restricted claims 1-27 and 40-45 to one of two groups: (I) claims 1-27, drawn to a coating method; and (II) claims 40-45, drawn to a method of gas flowing. The Examiner further withdrew claims 40-45 from consideration as being directed to a non-elected invention. The Applicant respectfully traverses this restriction. First, the Applicant stress that claim 40 depends from independent claim 1 and, thus, should be part of group I. The Applicant further stresses that Linn fails to teach or suggest the features of dependent claim 40. Therefore, claim 40 is believed to be in condition for allowance.

In addition, Applicant stresses that claim 41-45 are also directed to coating. For example, independent claim 41 recites, "A method, comprising: flowing a fiber coating reactant back and forth across a fiber passing through a reaction zone." Further, independent claim 45 recites, "A method, comprising: flowing a fiber coating reactant crosswise over a continuous fiber at a plurality of locations as the continuous fiber passes through a reaction zone." The Examiner apparently failed to recognize the recitations of coating and reaction zone in these claims. For these reasons, among others, the Applicant submits that claims 41-45 should be rejoined with claims 1-27 and 40. In addition, the Applicant stresses that Linn fails to teach or suggest the features of claims 41-45. Therefore, claims 41-45 are believed to be in condition for allowance.

For at least the foregoing reasons, Applicant respectfully requests withdrawal of the outstanding rejections and allowance of the pending claims.

Respectfully submitted,

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